

Serial No. 09/784,337

IN THE CLAIMS:

Please amend claims 1-17 as follows:

1. (AMENDED) System comprising a gear pump and a screw-type extruder for delivering elastomeric media, particularly caoutchouc media, which comprises a screw and a screw casing, the screw-type extruder being arranged in front of the gear pump viewed in the delivery direction of the pumping medium,

wherein the screw casing has at least one conical part, and the screw has at least one tapering in an area of the conical part, and wherein the screw is axially displaceable in the screw casing for the controlled feeding of energy into the pumping medium.

2. (AMENDED) System according to Claim 1,

wherein the tapering of the screw as well as the conical part are provided on the gear-pump-side end of the screw-type extruder.

3. (AMENDED) System according to Claim 1,

wherein the tapering of the screw increases viewed in the delivery direction of the medium.

4. (AMENDED) System according to Claim 1,

wherein the screw has a double-helix-type construction.

5. (AMENDED) System according to Claim 1,

Serial No. 09/784,337

wherein a tangential plane on the screw in the area of the tapering encloses an angle of from 2 to 10, preferably 8, with the center axis of the screw.

6. (AMENDED) System according to Claim 1,

wherein the length of the screw is less than five times, preferably three times, the diameter of the screw.

7. (AMENDED) System according to Claim 1,

wherein the screw-type extruder has a cylindrical part in addition to the conical part.

8. (AMENDED) System according to Claim 7,

wherein the ratio of the length of the conical part to the length of the cylindrical part is between 1:2 to 1:5, preferably approximately 1:4.

9. (AMENDED) System according to Claim 1,

wherein the length of the cone is less than the diameter of the screw.

10. (AMENDED) System according to Claim 1,

wherein the screw and/or the screw casing each have one hollow space respectively with at least two openings for admitting and discharging a temperature adjusting medium.

11. (AMENDED) System according to Claim 1,

wherein a filter is provided which, viewed in the delivery direction, is arranged behind the gear pump.

Serial No. 09/784,337

12. (AMENDED) System according to Claim 1,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector.

13. (AMENDED) System according to Claim 1,

wherein the screw projects into the case of the gear pump.

14. (AMENDED) System according to Claim 11,

wherein the filter is arranged between the gear pump and the spraying head.

15. (AMENDED) Use of the system according to Claim 1 for delivering elastomeric media, particularly caoutchouc.

16. (AMENDED) Method of operating the system according to Claim 12,

wherein, when a metal piece is detected, the delivery of the pumping medium is interrupted in that the drives of the screw and of the gear pump are stopped.

17. (AMENDED) Method of operating the system according to Claim 12,

wherein a detection of a metal piece is indicated to an operator who intervenes in the transport process of the

Serial No. 09/784,337

pumping medium for removing the metal piece without requiring an interruption of the production process.

Please add the following new claims:

18. (NEW) A conveying assembly comprising:

a screw-type extruder operable to deliver elastomeric media, and

a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations.

19. (NEW) A conveying assembly according to Claim 18, comprising openings for admitting temperature adjusting medium to respective hollow spaces at at least one of the screw and screw casing.

20. (NEW) A conveying assembly according to Claim 18, comprising a filter disposed downstream of the gear pump.

21. (NEW) A conveying assembly according to Claim 18,

Serial No. 09/784,337

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector.

22. (NEW) A conveying assembly according to Claim 18,

wherein the screw projects into the case of the gear pump.

23. (NEW) A method of conveying elastomeric material using a conveying assembly comprising:

a screw-type extruder operable to deliver elastomeric media, and

a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

said method comprising:

feeding elastomeric material to the gear pump with said screw-type extruder, and pumping said elastomeric material with the gear pump while varying the axial position of the screw and screw casing to assure control of energy in the elastomeric material supplied to the gear pump.

Serial No. 09/784,337

24. (NEW) A method of operating a conveying assembly comprising:

a screw-type extruder operable to deliver elastomeric media, and

a gear pump disposed downstream of the screw-type extruder,

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector,

said method of operating including detecting a metal piece by the detector and interrupting the drive of the screw and gear pump in response to detection of the metal piece.

25. (NEW) A method of operating a conveying assembly comprising:

a screw-type extruder operable to deliver elastomeric media, and

a gear pump disposed downstream of the screw-type extruder,

Serial No. 09/784,337

wherein the screw-type extruder includes a screw and a screw casing surrounding the screw, said screw casing including a conically tapered section, said screw including a corresponding conically tapered section adjacent to the conically tapered section of the screw casing, and

wherein the screw is axially displaceable with respect to the screw casing during conveying operations,

wherein a metal detector is arranged in front of the gear pump, preferably in front of the screw-type extruder, and

wherein a control unit is provided which is operatively connected with drives of the screw and of the gear pump and with the metal detector,

said method of operating including detecting a metal piece by the detector and intervening in the conveying process by removing the metal piece without interrupting the conveying operation of the extruder and pump.